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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,571	05/16/2005	James Langham Dale	23558-0017	4029

61263 7590 07/27/2007
PROSKAUER ROSE LLP
1001 PENNSYLVANIA AVE, N.W.,
SUITE 400 SOUTH
WASHINGTON, DC 20004

EXAMINER

WORLEY, CATHY KINGDON

ART UNIT	PAPER NUMBER
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1638

MAIL DATE	DELIVERY MODE
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07/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,571	Applicant(s) DALE ET AL.	
	Examiner Cathy K. Worley	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 70-138 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1 and 70-138 are subject to restriction and/or election requirement.

Application Papers

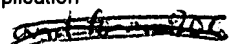
- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>sequence alignment</u>  |

DETAILED ACTION

Election/Restrictions

1. The restriction requirement mailed on July 3, 2007 is VACATED because it was mailed to the incorrect address. The restriction requirement in this office action replaces the previous one, and the time for reply is ONE MONTH from the mail date of this office action.

2. Restriction is required under 35 U.S.C. 121 and 372.

3. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Groups I-IV, claim(s) 1, 70-77, 87-89, 93-108, 78-80 (in part), and 90-92 (in part), drawn to DNA molecules and constructs comprising specified polynucleotides; wherein the specified polynucleotides for groups I-IV are defined by their relationship to SEQ ID NO: 6-9, respectively.

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Groups V-VII, claim(s) 81-82, 84, 83 (in part), and 85 (in part), drawn to polynucleotides comprising nucleotide sequences that encode specified amino acid sequences; wherein the specified amino acid sequence for groups V-VII is SEQ ID NO: 3-5, respectively.

Groups VIII-X, claim(s) 86 (in part), drawn to an isolated polypeptide comprising a specified amino acid sequence; wherein the specified amino acid sequence for groups VIII-X is SEQ ID NO: 4-6, respectively.

Group XI, claim(s) 109-121, drawn to a method for gene expression in a plant, comprising introducing an isolated promoter or biologically active fragment thereof or variant of these.

Group XII, claim(s) 122, drawn to progeny obtained from a differentiated transgenic plant.

Group XIII, claim(s) 123, drawn to a plant part of a differentiated transgenic plant.

Group XIV, claim(s) 124, drawn to a differentiated transgenic plant regenerated from transformed plant cells.

Group XV, claim(s) 125-133, drawn to a transformed plant cell and transgenic plant.

Group XVI, claim(s) 134, drawn to a method of using a chimeric DNA construct.

Group XVII, claim(s) 135, drawn to a method for diagnosing a badnaviral infection of a plant.

Groups XVIII-XXVI, claim(s) 137 and 136 (in part), drawn to a method of screening for an agent that modulates badnaviral infection that utilizes either a polypeptide with a specified amino acid sequence or a polynucleotide with a specified nucleic acid sequence; wherein the specified sequence for groups XVIII-XXVI is SEQ ID NO: 1-9, respectively.

Groups XXVII-XXXV, claim(s) 138 (in part), drawn to a method for treating and/or preventing a badnaviral infection of a plant that utilizes either a polypeptide with a specified amino acid sequence or a polynucleotide with a specified nucleic acid sequence; wherein the specified sequence for groups XXVII-XXXV is SEQ ID NO: 1-9, respectively.

4. The inventions listed as Groups I-XXXV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking groups I-XXXV is an isolated DNA comprising a promoter upstream of SEQ ID NO:1 or upstream of a sequence that hybridizes to SEQ ID NO:1 or a fragment or variant; or a coding sequence comprising SEQ ID NO:1 or a variant or portion thereof; or a polypeptide encoded by SEQ ID NO:1 or a variant or portion. SEQ ID NO:1 encodes 3 open reading frames (ORFs) from the Taro bacilliform virus (TaBV) (see first page 4 of the instant specification). Huang et al teach the genomic sequence of the *Citrus yellow mosaic virus* in their article "Cloning and sequence analysis of an infectious clone of *Citrus yellow mosaic virus* that can infect sweet orange via *Agrobacterium*-mediated inoculation" (see J. of Gen. Virol. (2001) Vol. 82, pp. 2549-2558). They teach that the genomes of all badnaviruses have similar genome organization and contain three open reading frames capable of encoding proteins with a molecule mass greater than 10 kDa (see paragraph bridging pages 2549-2550). The amino acid sequence of one of the proteins encoded by the virus taught by Huang et al is published in GenBank Accession NP_569153 (See Huang et al (2001) GenBank accession NP_569153.1). This protein shares substantial homology with the protein encoded by the instant SEQ ID NO:1 (see alignment). This demonstrates that the genomic sequence taught by Huang et al encodes a "portion" and a "variant" of the proteins encoded by

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the instant SEQ ID NO:1. Therefore, the technical feature linking the inventions of groups I-XXXV does not constitute a special technical feature as defined by PCT Rule 13.2 as it does not define a contribution over the prior art.

Accordingly, Groups I-XXXV are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept.

5. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

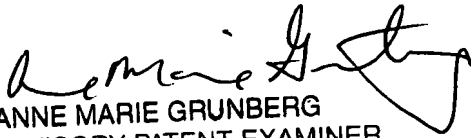
6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy K. Worley whose telephone number is (571) 272-8784. The examiner has a variable schedule but can normally be reached on M-F 10:00 - 4:00 with additional variable hours before 10:00 and after 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKW


ANNE MARIE GRUNBERG
SUPERVISORY PATENT EXAMINER

Sequence Alignment

>ref|NP_569153.1| **G** poplyprotein [Citrus yellow mosaic virus]
 gb|AAL18495.1|AF347695_3 **G** unknown [citrus yellow mosaic virus]
 Length=1983

Score = 736 bits (1900), Expect = 0.0
 Identities = 383/725 (52%), Positives = 505/725 (69%), Gaps = 34/725 (4%)
 Frame = +2

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Query   4145  QVAKSS-VLPRLYSIQAHIHAPDIVISTTAIIDTGATVCCISEKIVPEAAKEQLNYKVN  4321
Sbjct   1177  QVTKTRPVKNMLYNMDVRMEIPGIPAFTVKAILDTGATTCCIDRSVPKDALEENSFVVN  1236

Query   4322  isgissqqqigHRLKRGTLIASNKYALPLCYIIELNDKDDFSMILGCNFFKHMGGMR  4501
Sbjct   1237  FSGINSKQVVKQKLKTGKMFINEHYFRIPYCYSFEMQIGDGIQLILGCNFIRSMYGGVRL  1296

Query   4502  EGPHTVTFYKGITTLLSTSYANTGIDTEHEQ-----ITSTTSQSFKER  4624
Sbjct   1297  EGNITITFYKQITSINTRLAAPLLKQEEEEKEEELNLEEHRLIQEMVAYSTERPFVQFQQK  1356

Query   4625  FSPLMNELKAAGYIGEDPLKHSKNKVTCKLDLKNTEITIQDKPLRHITPALEQSYGRHV  4804
Sbjct   1357  FAGLIQDLKAQGYIGEEPMPKYWAKNQVCHLDIKNPDMVIEDRPLKHVTPQMEESFRKHV  1416

Query   4805  NALLMLKVIQPSKSRHRTMAFLVNSGTTVTA-DGKEIKGKERMVFNKALNDNTYKDQYS  4981
Sbjct   1417  EALLKIGAIRPSKSRHRTTAIVNSGTSIDPITGKEVKGKERMVFNKRLNDLTNKDQYS  1476

Query   4982  LPNIQLILKKVINSTIYSKFDLKS GFHQVAMPDPSVEWTAFLVPQGLYEWLAMPFGLKNA  5161
Sbjct   1477  LPGIQTILQRLKGSTIFSKFDLKS GFHQVAMHPDSIEWTAFWVPSGLYEWLVMPFGLKNA  1536

Query   5162  PAVFQRKMDAVFKGCEKFLAVYIDDILVFSNNEEDHAKHLVIMLQRCHEGLVLSPTKMN  5341
Sbjct   1537  PAIFQRKMDHCFKGTEAFIAVYIDDILVFSKTEQDHEKHLQIMLAICQKNGLILSPTKMK  1596

Query   5342  IAVREVNFLGATIGSRKVKLQENIIKKILDFTDKLQSKKGLRSFLGILNYARNHIPNLG  5521
Sbjct   1597  IAQAEIEFLGAIHKGLIKLPQPHIVQKLLTFTNKQLEEVKGLRSWLGLLNYARSYIPHMG  1656

Query   5522  KIAGPLYSKTSIYGDIRFSASDWKLINEIKAIVEKLPPLDYPPEQAYIIIESDGCMEGWG  5701
Sbjct   1657  RLLSPLYAKVSPTGERMRNQDWALIDKIRAQVQNLPALELPADCFIIIIETDGCMDGWG  1716

Query   5702  AICKWKLAEDPKSSEQICAYASGKFSPISKSTIDAEITAAMEGLEAFKIH YLDKQKITLR  5881
Sbjct   1717  GVCKWKVAQYDPRSSSERVCAYASGKFNPSTIDAEIHAVMNSLNNFKIYYLDKSSLCRLR  1776

Query   5882  TDCQAIISFCNKTSVNKPSRVRWLKFIDYITNTGIDVKFEHIDAKNNVLADTSLRLVNTL  6061
Sbjct   1777  TDCQAIISFNKSNVNKPSRVRWIAFTDFLTGLGIPVNIHIDGKNNHLADALSRLVTGF  1836

Query   6062  QDL-PWLDEPHQDQTVSL---MQEIEDAP-----LEIKQSLTCLQRLICRSFMEDST  6208
Sbjct   1837  VFAEPQCQDKFQDDLGLKLEAALQEKKEAPQAMHVEYVSLIRSAADRITRSLC--FMRDSS  1894

Query   6209  EEAIH 6223
Sbjct   1895  HSRIY 1899
  
```

Score = 360 bits (924), Expect = 7e-97
 Identities = 226/608 (37%), Positives = 324/608 (53%), Gaps = 59/608 (9%)
 Frame = +2

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Query   2069  DLDYPTLISMEK-----QLVQSSVTSAYNPPTPEPLMGQVVYPPA-SAPRPQ AET  2212
Sbjct   581  EFDYPAFARLQAHEESGRPKPKTEKVLSSAISSYTPPTDTAMTFVAYPPAQNIASPSYNP  640

Query   2213  SSTSERFKNFRAKPYSTPT-----IFLPPAYNQOGAILVLPDDIGLYEDTISRWESITLN  2377
Sbjct   641  SPQMPMFEGYYPKRPNFKRDNHAFISLPSAQONTGALFIMPQQIGLFHEVFTSWEAITKA  700
  
```

Query	2378	MMNEKVWPSNEAKAKYMENLLGEMEKKTWIQWRTTYVSEYDALVQQSDE---TONLLSQV	2548
		+ ++ KA+++EN+LG EK W QWR Y EY+ LV +D TQN+LSQ+	
Sbjct	701	YVAQQGITDPRDKAEFIENMLGPTEKIIWTQWRMGYADEYENLVTTADGREGTQNILSQM	760
Query	2549	RRIFLLQDPYQGSTAEQDQAYNDLERISCDNIKDLIPYLIQFRNLAAKSGRLFLGPELSE	2728
		RR+F L+DP GSTA QD+AY DLER++CD++K ++ YL F +AAK+GR+F+GPELSE	
Sbjct	761	RRVFSLEDPTTGSTAVQDEAYRDLERLTCDSVKHIVQYLNDFMRIA AAKTGRMFIGPELSE	820
Query	2729	KLFRKMPPLIGKEIETAFIAKHGNANITVMPRIHFAYHYLAELCKKAALQRSCLKDLSFCN	2908
		KL+ KMP +G+ ++ A+ KH + V PRI FAY YL CK AA +RSLK+LSFC+	
Sbjct	821	KLWLKMPGDLGQRMKKAYEEKHPGNIVGVCPRI LFAYKYLEGECKDAAFRRSLKNLSFCS	880
Query	2909	QIPLPGIY--TKGNKKFGLRKARTYKGKPHPTHVRVFKKAKYQRTKKCKCFICGEPGHFA	3082
		IP+PG Y G K++G+R+ TYKGKPH TH R+ +K K+ R KKCKC++CGE GHFA	
Sbjct	881	SIPIPGYGGKSGEKRYGVRRTTTYKGKPHSTHARI-EKTKHLRNKKCKCYLCGEEGHFA	939
Query	3083	RECTKQRGNIVRATVHQELAIPDNFdvvsvdadesdssGIYSYSE-NEAPLQEVNSFIHD	3259
		REC R N+ R + + L +PD+ ++VS+D + DS I+S SE EA E F+	
Sbjct	940	RECPNDRRNVRVAMFEGLDLPDDCEIVSIDE GDPDSDAIFSISEGEEAGTLEEQC FVFQ	999
Query	3260	ENIFFLSDADEFESPQOHLHETVNMLQSR SAYLPQVAVGEEKLNC SHIWLQDVIDIPSDKH	3439
		E L R Y V + +E C H W ++ I H	
Sbjct	1000	EEC-----NGTYWLGKRGGYQDLVQISKEIYYCQHEWEENQ PINDPAH	1042
Query	3440	-KCHTCRRDTQKHRYLECQCKFLVCSLCTIPYLG--ITMQFRQKQKSQPENPNLVRELL	3610
		+C+ C+R+T + RL C+ C C +C Y IT+Q P+ P + LL	
Sbjct	1043	VRCYPCKRETTQRRARLHCKLCHITSCLMCGPTYFNKKITVQ-----PMPQAPFNQKGLL	1096
Query	3611	EHAIFLEEKCKNQ--ELLSETQIERIVSSEKQVKFYGILPTKKS NKS-AGYDLQSNID--	3775
		+ C N+ L E + ++ E++++ L ++S K AG D + D	
Sbjct	1097	QQQQEYIAWCNNEIARLKEEVAFYKQLAQERELQ----LQLEQSRKELAGVDSRRRKDKG	1152
Query	3776	IEIPPGKC 3799	
		I I G C	
Sbjct	1153	IVIDEGSC 1160	

Score = 261 bits (668), Expect = 3e-67
 Identities = 138/327 (42%), Positives = 200/327 (61%), Gaps = 18/327 (5%)
 Frame = +2

Query	911	PSTSSTV-----PSQQDQIRDYRNMQRVRHTAERAARRIFPGRFNRTLESQINPEAEIR	1072
		P+T++ V P DQIRDYR QR RH R ++ +N+TLE ++PE ++	
Sbjct	15	PATTARVEERDNTPLYDDQIRDYRQWQRRRHNMGRWNQLIGRPYNQTLEQVVDPEVALQ	74
Query	1073	LSQORRAAMVPAEVLYNTSPSTRNQKVYQHYSEERILCTGQNQQLNLPFINESSYRALRE	1252
		LS Q RA +VPAEVLY + R+ +VY H SEE ILC Q++ I S L	
Sbjct	75	LSMQERARLVPAEVLYRSRTDDRHHQVYIHKSEEAILCV-DGDQVDRLLIQPESAEQLSR	133
Query	1253	SGQQHLHIGLIMIRVHPLHRRNAGTTALIVPRDIRWNDDRSIIGTMEIDLSAGSQIVYIA	1432
		SG +H+G++ +R+ LHR++ GTTAL+V RD RW D+SI TME+DL+ G Q+VYI	
Sbjct	134	SGMSFIHMGIVQVRIQILHRQHEGTTALVVFDRNRWQGDQSIFATMELDLTKGMQMVYII	193
Query	1433	PNIMLSVEDFYRNIQLAIQTQGYENWNSAESNLLISRALIGRLTNSFTGFQYNISNVAE	1612
		P+ M++V DF RN+Q++I T+GY NW + E+NLL++R ++GRL+N F Y I NV +	
Sbjct	194	PDTMMTVRDFCRNVQISILTKGYGNWQNGEANLLVTRGIVGRLSNTPNVAFAFYQIQNVTD	253
Query	1613	YLHSHGVQAIEGQAHPT--LGNRWILQ-APAPPRS LVPQNVETTTLLDGNVSIRFSNYH	1783
		YL SHG+QA+ G+ + G +W L+ + P + P NV+T ++DG++S+RF++Y	
Sbjct	254	YLVSHGIQALPGRRYSTADIQQQWFLRPSNIPAVPMAPTNVDTRNMIDGSISLRFNSYQ	313
Query	1784	QAP-----VNDTQDNSHPDIQEDENQ 1846	
		AP N + PD EDE Q	
Sbjct	314	PAPDPTPVAYNQHD EEVPPD--EDEEQ 338	